

MACS



Maryland Agricultural Water Quality Cost-Share Program Annual Report 2004

**Celebrating 20 Years of Helping Maryland
Farmers Protect Natural Resources**

A MESSAGE FROM THE SECRETARY



2004 marks the 20th anniversary of the Maryland Agricultural Water Quality Cost-Share (MACS) Program. We've come a long way since the program was launched back in 1984 as a way to help farm-

ers cover the costs of installing best management practices (BMPs) on their farms. During its first year, MACS provided farmers with \$441,000 in cost-share assistance to install 133 projects on their farms to control soil erosion and protect water quality. This year, MACS provided farmers with \$4.8 million to install 1,500 projects on their farms—a ten-fold increase in projects and funding since 1984. Over the past 20 years, additional BMPs have been added to the original list of eligible practices—following scientific research and confirmation of their environmental benefits—to help farmers improve their management of natural resources and control nutrient runoff. Today, MACS provides farmers with cost-share grants to install a full range of BMPs on their farms as part of a larger, more comprehensive natural resources protection program. Cover crops planted after the harvest to utilize residual fertilizers, streamside buffers of grasses and trees planted to protect waterways from sedimentation and agricultural runoff, and nutrient management plans required by the Water Quality Improvement Act of 1998 are among some 30 BMPs now funded by MACS.

The importance of the program in protecting natural resources has not been lost on Maryland

farmers. Since the creation of MACS back in 1984, approximately 17,500 projects have been funded through the program's capital budget with hundreds of additional BMPs installed through special funding sources. Over the last 20 years, Maryland farmers have committed more than \$9 million of their own money to match the roughly \$75 million provided by state and federal funding sources to install BMPs through MACS. Farmers incur additional maintenance costs throughout the 10-15 year life span of BMPs installed.

Looking ahead, the program's future shows promise. This spring Governor Robert L. Ehrlich, Jr. signed into law one of the most important environmental initiatives of the past 30 years—the Chesapeake Bay Restoration Fund. The fund charges a user fee to pay for upgrades to sewage treatment plants and help homeowners improve failing septic systems. The good news for Maryland farmers is that a portion of the fund will support the MACS cover crop cost-share program. We estimate that the fund will provide \$3.6 million in cover crop funding during 2006 and potentially \$4.8 million when the program is fully implemented. This increased funding will prevent an estimated 1,360,000 pounds of nitrogen and 32,000 pounds of phosphorus from reaching Bay tributaries each year, and that has to be good news for everyone.

As Maryland moves forward in its efforts to protect water quality and natural resources, I am confident that Maryland farmers—in partnership with MDA and the MACS program—will continue to do their part to protect our streams, rivers and the Chesapeake Bay for future generations.

A handwritten signature in dark ink that reads "Lewis R. Riley". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Lewis R. Riley
Maryland Secretary of Agriculture

THE MACS MISSION

Since 1984, the Maryland Agricultural Water Quality Cost-Share Program has been helping farmers safeguard water quality, protect natural resources on their farms, maintain farm productivity and comply with federal and state environmental requirements. Because productive soil and healthy waterways benefit all Maryland citizens, MACS provides farmers with grants to cover up to 87.5 percent of the cost to install best management practices (BMPs) on their farms to prevent soil erosion, manage nutrients and safeguard water quality in streams, rivers and the Chesapeake Bay. Cover crops planted after the harvest to soak up unused fertilizers, streamside buffers of grasses and trees planted to protect waterways from sedimentation and agricultural runoff and animal waste systems designed to help farmers collect and use manure resources are among 30 BMPs currently eligible for MACS funding.



STREAM PROTECTION PRACTICES

Watering facilities, livestock fencing and streamside buffers help protect water quality in streams, rivers and the Chesapeake Bay.

This report summarizes the activities of the Maryland Agricultural Water Quality Cost-Share Program during State Fiscal Year 2004, the period from July 1, 2003 to June 30, 2004.

2004 PROGRAM SUMMARY

Capital Projects

Helping farmers install pollution control measures on their farms is a cornerstone of Maryland’s agricultural soil conservation and water quality protection program. MACS provides farmers with grants to cover up to 87.5 percent of the cost to install best management practices (BMPs) on their farms to prevent soil erosion, manage nutrients and safeguard water quality in streams, rivers and the Chesapeake Bay.

In Fiscal Year 2004, Maryland farmers received \$4.8 million in grants from MACS to install more than 1,500 projects on their farms that prevent soil erosion, control nutrient runoff and safeguard water quality. These

projects represent a personal investment of more than \$600,000 by Maryland farmers, who will also shoulder the maintenance and upkeep expenses of the BMPs for years to come. Collectively, the projects will help prevent 15,000 tons of soil annually from impacting Maryland waterways while managing 1,000 tons of manure daily. Filter strips, riparian forest buffers, nutrient management services, watering facilities, livestock fencing, grassed waterways, conservation cover, manure transport, water wells and waste storage structures round out the top 10 BMPs installed during the year with MACS assistance.

FISCAL YEARS 1984-2004: CAPITAL APPROPRIATIONS

	Number of Projects	Funds
Projects Approved from State Funds	18,124	\$ 89,534,992
Projects Approved from Federal Funds	1,847	8,331,376
Total Projects Approved	19,971	\$97,866,368
Projects Completed with State Funds	15,671	\$ 67,035,555
Projects Completed with Federal Funds	1,878	8,289,530
Total Projects Completed	17,549	\$75,325,085



GRASSED WATERWAY

Grassed waterways provide a stable pathway for rainwater runoff, helping to prevent soil erosion. The grass slows down the movement of water, while its roots help hold the soil in place.

FISCAL YEAR 2004 PROGRAM SUMMARY

Capital Projects Approved	Number of Projects	Funds
From State Funds	915	\$ 6,091,460
From Federal Funds	6	114,323
Total Capital Projects Approved	921	\$6,205,783

Capital Projects Completed		
CREP Projects With State Funds	629	\$ 1,542,744
Other Projects With State Funds	278	1,933,998
With Federal Funds	24	177,833
Total Capital Projects Completed	931	\$3,654,575

Special Projects Completed		
Cover Crop Projects	293	\$591,697
Manure Transport Projects	83	\$295,356*
Nutrient Management Cost-Share	196	\$271,549
Total Special Projects Completed	572	\$1,158,602

TOTAL CAPITAL AND SPECIAL PROJECTS COMPLETED	1,503	\$4,813,177
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	Tons	Acres of Land
Tons of Soil Saved Per Year	15,110	2,341

Manure Managed Daily	Tons of Manure	Animal Units**
Poultry Manure Managed Daily	161	9,896
Dairy Manure Managed Daily	562	13,841
Beef Manure Managed Daily	280	7,219
Other Animal Manure Managed Daily	32	1,174
Total Animal Manure Managed Daily	1,035	32,130

* Does not include poultry company matching funds

** One animal unit = 1,000 lbs. live animal weight

**ANIMAL WASTE STORAGE STRUCTURE**

Animal waste placed in storage structures is contained and protected from rainwater runoff so that it can be recycled as a fertilizer when conditions are right.

2004 PROGRAM SUMMARY SPECIAL PROJECTS

Nutrient Management Services

Maryland law requires all farmers grossing \$2,500 or more annually or raising 8,000 pounds or more of live animal weight to run their operations using a nutrient management plan. MACS provides financial assistance to farmers who hire a private, non-government consultant to develop or update a nutrient management plan for their farms. The reimbursement rate is 87.5 percent of the cost of the plan, up to \$3,000 per operation. Grants cover one nutrient management plan per operator, per year. Cost-share grants are also available for certain out of pocket expenses, such as manure analyses, incurred by operators who are certified by MDA to develop their own plans and operators whose plans are being developed by Cooperative Extension consultants.

In Fiscal Year 2004, MACS issued \$271,549 in cost-share grants to 196 farmers who applied for nutrient management services. The cost-shared plans were used to manage fertilizers on approximately 90,841 acres of farmland.

FISCAL YEAR 2004 DISTRICT SUMMARY FOR NUTRIENT MANAGEMENT

District	Completed Plans	Payment Amount	Acres
Allegany	0	\$ 0	0
Anne Arundel	5	4,095	907
Baltimore	7	7,208	2,996
Calvert	0	0	0
Caroline	28	31,647	10,395
Carroll	8	10,604	2,140
Catoctin	2	1,793	393
Cecil	9	8,249	2,396
Charles	1	3,500	2,570
Dorchester	15	31,887	12,716
Frederick	46	57,753	12,956
Garrett	2	2,057	589
Harford	16	23,984	8,097
Howard	2	859	50
Kent	21	29,286	12,536
Montgomery	3	5,451	1,200
Prince George's	1	1,818	19
Queen Anne's	13	24,149	10,241
St. Mary's	0	0	0
Somerset	2	4,152	1,100
Talbot	9	15,391	6,587
Washington	0	0	0
Wicomico	4	3,089	586
Worcester	2	4,577	2,367
TOTALS	196	\$271,549	90,841

NUTRIENT MANAGEMENT SERVICES

Nutrient management plans—required by Maryland law—help farmers manage fertilizers and animal wastes more efficiently.



MANURE TRANSPORT PROGRAM

Fiscal Year	Approved Transport Projects		Payments on Transports		
	Tons	Cost-Share Amount	Actual Tons Transported	Poultry Companies Cost-Share*	State Cost-Share
Fiscal Year 1999	5,500	\$ 110,460	1,896	\$ 17,992	\$ 17,992
Fiscal Year 2000	19,901	330,279	13,366	111,464	111,464
Fiscal Year 2001	36,930	706,341	20,477	195,559	195,559
Fiscal Year 2002	65,522	1,251,396	47,481	420,395	434,610
Fiscal Year 2003	47,527	757,911	28,556	229,645	233,444
Fiscal Year 2004	46,155	698,817	40,755	285,806	295,356
Totals	221,535	\$3,855,204	152,531	\$1,260,861	\$1,288,425

*Match provided for poultry litter only. Other manure cost-shared by MDA at up to 87.5%

Manure Transport Program

The Manure Transport Program helps poultry, dairy, beef and other animal producers cover the costs of transporting excess manure off their farms. Animal producers with high soil phosphorus levels or inadequate land to spread their manure can receive cost-share assistance of up to \$20 per ton to transport excess manure to other farms or alternative use facilities that can use the product safely. To support Maryland's goal of transporting 20 percent of the poultry litter produced on the Lower Eastern Shore to other regions, cost-share rates are 20 percent higher for farms located in Dorchester, Somerset, Wicomico or Worcester counties.



New guidelines were adopted during the year to streamline the program. They make it easier for dairy farmers and other non-poultry animal producers to transport manure within their own operations, provided the manure is moved more than one mile from the manure production or storage site.

In Fiscal Year 2004, Maryland's Manure Transport Program provided farmers with \$295,356 in state grant payments to transport 40,755 tons of manure away from areas with high soil phosphorus levels, an increase of more than 25 percent over 2003. Cost-share funds to transport poultry litter—comprising the bulk of the manure transported—were matched by Delmarva poultry companies, bringing the total amount of financial support provided to \$581,162.

MANURE TRANSPORT

Animal producers with high soil phosphorus levels or farmers who lack sufficient cropland to spread manure as a fertilizer may apply for grants to transport excess waste to other farms or facilities that can use the product safely for alternative uses.

Cover Crop Program

Cover crops are valuable tools used by farmers to protect water quality in the Chesapeake Bay and its tributaries. Cover crops provide dual protection against farm runoff and soil erosion by absorbing unused crop nutrients remaining in the soil following the fall harvest and acting as a ground cover to keep the soil from washing away during the winter months. Research shows that cover crops of wheat, barley, rye or oats planted immediately after the fall harvest are most effective in taking up unused crop nutrients remaining in the soil.

In Fiscal Year 2004, Maryland farmers planted 29,584 acres of cover crops statewide using \$591,697 in MACS grants. Due to extended wet conditions in the fall of 2003, many Maryland farmers were unable to harvest their summer field crops of corn, soybeans or vegetables in time to plant fall cover crops. As a result, participation in the 2004 cover crop program was lower than in previous years.

COVER CROPS

Planted after the fall harvest, cover crops help absorb unused plant nutrients remaining in the soil and prevent erosion over the winter months.

2003 - 2004 COVER CROP PROGRAM

District	Applications	Acres	Spring Payment Amount
Allegany	1	41	\$ 820
Anne Arundel	7	723	14,460
Baltimore	3	268	5,366
Calvert	5	451	9,010
Caroline	20	2,078	41,554
Carroll	4	299	5,982
Catoctin	5	272	5,446
Cecil	11	635	12,700
Charles	6	369	7,380
Dorchester	30	4,174	83,470
Frederick	31	2,465	49,292
Garrett	0	0	0
Harford	14	792	15,842
Howard	3	202	4,043
Kent	32	3,015	60,294
Montgomery	7	851	17,028
Prince George's	7	222	4,452
Queen Anne's	19	2,416	48,328
St. Mary's	7	643	12,852
Somerset	16	1,607	32,140
Talbot	22	3,041	60,822
Washington	10	375	7,508
Wicomico	23	3,238	64,760
Worcester	10	1,407	28,148
TOTALS	293	29,584	\$591,697



FISCAL YEAR 2004 DISTRICT SUMMARY FOR CAPITAL PROJECTS

District	Completed Projects	Payment Amount
Allegany	32	\$137,320
Anne Arundel	0	0
Baltimore	12	46,866
Calvert	5	18,571
Caroline	22	209,404
Carroll	131	403,024
Catoctin	23	132,464
Cecil	24	187,215
Charles	23	96,872
Dorchester	85	175,305
Frederick	68	400,592
Garrett	19	57,653
Harford	59	269,698
Howard	23	100,627
Kent	87	283,358
Montgomery	15	147,161
Prince George's	8	27,045
Queen Anne's	55	122,860
St. Mary's	29	105,199
Somerset	4	79,897
Talbot	18	99,642
Washington	36	153,421
Wicomico	79	182,645
Worcester	50	217,736
Totals	907	\$3,654,575

Conservation Reserve Enhancement Program

The Conservation Reserve Enhancement Program (CREP) is a voluntary federal-state initiative that provides land rental payments to landowners who remove environmentally-sensitive cropland from production. The program also provides cost-share payments to landowners to install protective BMPs on enrolled lands. Farmers who sign up with CREP agree to convert streamside property and highly erodible land into grassed or forested buffers or create wetlands in exchange for annual rental payments. The program—with an enrollment of approximately 71,200 acres to date—is helping to prevent nutrients and sediment from impacting local waterways while creating critical habitat for wildlife. In Fiscal Year 2004, MACS provided \$1.5 million in cost-share payments to 629 landowners enrolled in CREP. The funding was used to install a range of streamside conservation measures including forested and grassed riparian buffers, conservation cover, stream crossings, animal fencing and other best management practices aimed at keeping livestock away from sensitive stream banks.



CONSERVATION RESERVE ENHANCEMENT PROGRAM

MACS provides farmers with financial assistance to install best management practices on environmentally-sensitive farmland enrolled in the Conservation Reserve Enhancement Program (CREP).

Maryland’s Soil Conservation Districts—Bringing MACS to Farmers

Maryland’s 24 soil conservation districts play an important role in promoting and delivering MACS assistance to local farmers. Located in every Maryland county, soil conservation districts—with technical guidance from USDA’s Natural Resources Conservation Service—help farmers select the right BMPs for their operations while supervising their installation or construction and developing maintenance plans to keep them in good working order. Agricultural planners working in the soil conservation district office also help farmers calculate costs to install BMPs and apply for state and federal cost-share and low interest loans.



STREAM CROSSING

Stream crossings prevent stream bank and stream bed erosion, reduce sediment and enhance water quality by controlling livestock disturbance of waterways.

COMPLETED PRACTICES BY DISTRICT

Practice	Allegany	Anne Arundel	Baltimore	Calvert
Conservation Cover	2			1
Contour Farming				
Contour Orchard				
Critical Area Planting	2		1	
Dead Bird Composting Facility				
Diversion	2			
Fencing	11		7	2
Field Border				
Field Windbreak				
Filter Strip				
Grade Stabilization Structure	3			
Grassed Waterway				
Heavy Use Area Protection				
Lined Waterway or Outlet				
Manure Transport Pilot Project				
No Till				
Nutrient Management		5	8	
Riparian Forest Buffer	15		4	1
Riparian Herbaceous Cover				
Roof Runoff Structure	2			1
Sediment Basin				
Sediment Control Pond				
Spring Development	7		4	
Stream Crossing	2		2	
Strip Cropping, Contour				
Strip Cropping, Field				
Strip Cropping, Wind				
Terrace System				
Waste Storage Pond				
Waste Storage Structure				
Waste Treatment Lagoon				
Wastewater Treatment Strip				
Water Well	1			
Watering Facility	9		8	
Total	56	5	34	5

FOR FISCAL YEAR 2004

	Caroline	Carroll	Catoctin	Cecil	Charles	Dorchester	Frederick	Garrett	Harford	Howard	Kent	Montgomery	Prince George's	Queen Anne's	St. Mary's	Somerset	Talbot	Washington	Wicomico	Worcester	Total FY2004	Cumulative FY88-04
	24	5	5	2		5	2	5	2	20	1	4	3	6			1				88	489
	5																				5	39
																					0	2
				2								1					1				7	757
6					1										3			2	3		15	751
				2				2						3							9	432
	15	4	2	7		13	1	16	5		2	3			1		17				106	760
																					0	9
																					0	2
12	14		6	5	75	1		3		22		3	40	7		8		52	22		270	661
1			2	2				2		6			5			7					28	1,483
1	28		3	5					1	47	1	1	2	7		9					105	3,573
	1		1	2					1	2	1				1		4				13	184
	1										1		2			3					7	317
8		1			3		1			1			4	8	12	1		39	5		83	448
																					0	12
30	11	2	9	2	17	54	3	17	3	25	5	1	16		2	13		4	2		229	1,093
	40	12	6	1	12	32	16	11	10	8	11	2	8	2		2	10	23	21		247	1,123
													2						1		3	561
	5	1	3	3		8		1		2	1				1						28	426
														1							1	46
										2				4							6	996
	11	2				3	2	8	2								1				40	1,038
	5		2			4		2	5						1		6				29	348
																					0	61
		2					1														3	65
										1											0	0
																					1	78
																					0	36
9	5		2		1	6		1	2	2	1			1	3			4	5		42	1,714
																					0	15
																					0	3
	1	1	1	5		5		22				2		3			3				44	104
	11	6	1	8		11	3	35	6			3		1			13				115	1623
67	177	36	43	46	109	142	29	125	37	138	24	20	82	43	24	43	56	124	59		1,524	19,249



Maryland Department of Agriculture

Office of Resource Conservation

Conservation Grants Program

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Lewis R. Riley, *Secretary of Agriculture* | John R. Brooks, D.V.M., *Deputy Secretary of Agriculture*